AMENDMENT TO THE CLAIMS:

1. (Previously Presented) A nanocomposite which is manufactured from applying particles of materials, comprising:

   a. aluminum or aluminum alloy particles with nano-scale surface aluminum oxide comprised of an aluminum metal or aluminum alloy inside of said particles and an aluminum oxide layer on the outside of said particles, and particles of a modulus phase; and

   b. said aluminum oxide layer of the particles is quantitatively controlled from a volume percent of nano phase aluminum oxide needed in said particles which is defined by a N_{Al}, and is specified by :

   $$N_{Al} = N_T(1 + V_M/V_{Al})$$

   where N_T is a volume percent of the nano phase aluminum oxide in the nanocomposite, V_M is a total volume percent of the modulus phase, and V_{Al} is a total volume percent of the aluminum phase in the nanocomposite.

2. (Previously Presented) Said nanocomposite in accordance with Claim 1, wherein said aluminum alloy comprises elements taken from aluminum, boron, cobalt, copper, iron, magnesium, manganese, nickel, silicon, titanium, zinc, alloys and a combination thereof.

3. (Previously Presented) Said nanocomposite in accordance with Claim 1, wherein said nano-scale aluminum oxide is uniformly distributed in said nanocomposite.

4. (Currently Amended) Said nanocomposite in accordance with Claim 1, wherein said modulus phase is comprised of ceramic particles which are uniformly distributed in said nanocomposite.

5. (Currently Amended) Said nanocomposite ~~modulus ceramic particles~~ in accordance with Claim 4, wherein said ceramic particles ~~are selected from~~ further include boron carbide powder particles, silicon carbide powder particles or other ceramic ~~powders~~ powder particles having higher elastic modulus than that of aluminum oxide.

6. (Currently Amended) Said nanocomposite in accordance with Claim 1, comprising about 0.5 to about 10 volume percentage of said nano phase aluminum oxide ~~particles~~.

7. (Previously Presented) Said nanocomposite in accordance with Claim 1, comprising about 1 to about 45 volume percentage of said modulus ceramic particles.

8. (Currently Amended) Said nano-scale aluminum oxide ~~particles~~ which is uniformly distributed in said nanocomposite in accordance with Claim 3, is in a form of particles having ~~wherein said particles have~~ an average particle size between about 10 nm to about 800 nm.

9. (Currently Amended) Said ~~modulus~~ ceramic particles of said modulus phase in accordance with Claim 4, ~~wherein said particles~~ have an average particle size between about 0.2 microns to about 15 microns.

10. (Previously Presented) Said nanocomposite in accordance with Claim 1, wherein said aluminum or aluminum alloy particles with nano-scale surface aluminum oxide are comprised of an aluminum metal or aluminum alloy inside of said particles and an aluminum oxide layer on the outside of said particles and are preferably in a spherical shape.

11. (Previously Presented) Said preferred spherical shaped aluminum or aluminum alloy particles with nano-scale surface aluminum oxide in accordance of Claim 10, wherein

said aluminum oxide layer of the spherical particles is quantitatively controlled from a volume percent of nano phase aluminum oxide needed in said particles, which is defined by the symbol N_{Al} and is specified by:

$$N_{Al} = 1 - (1 - 2 T/D)^3,$$

where T is a thickness of the aluminum oxide layer, and D is an average size of said particles.

12. (Previously Presented) Said nanocomposite in accordance with Claim 1, further comprising an aluminum alloy phase, wherein said phase is formed during a consolidation step and a subsequent metal working step from aluminum or aluminum alloy particles with nano-scale surface aluminum oxide comprised of an aluminum metal or aluminum alloy inside of said particles and an aluminum oxide layer on the outside of said particles.

13. (Previously Presented) Said nanocomposite in accordance with Claim 1, further comprising a nano-scale aluminum oxide phase comprising nano-scale aluminum oxide particles in said nanocomposite, said nano-scale aluminum oxide particles are prepared from the aluminum or aluminum alloy particles with nano-scale surface aluminum oxide comprised of an aluminum metal or aluminum alloy inside of said aluminum or aluminum alloy particles and an aluminum oxide layer on the outside of said aluminum or aluminum alloy particles , said nano-scale aluminum oxide phase is from said aluminum or aluminum alloy particles wherein said outside layer of aluminum oxides of said aluminum or aluminum alloy particles is broken in the processes of making said composite, wherein said breaking of said aluminum oxide layer of said aluminum or aluminum alloy particles does not happen in a step to make the powder mixture of said composite, and said breaking of said aluminum oxide layer happens during a consolidation step and subsequent metal working step, further an amount of said nano-scale aluminum oxide phase in said composite is quantitatively controllable in a step of

making said aluminum or aluminum alloy particles with nano-scale surface aluminum oxide, and a modulus phase.